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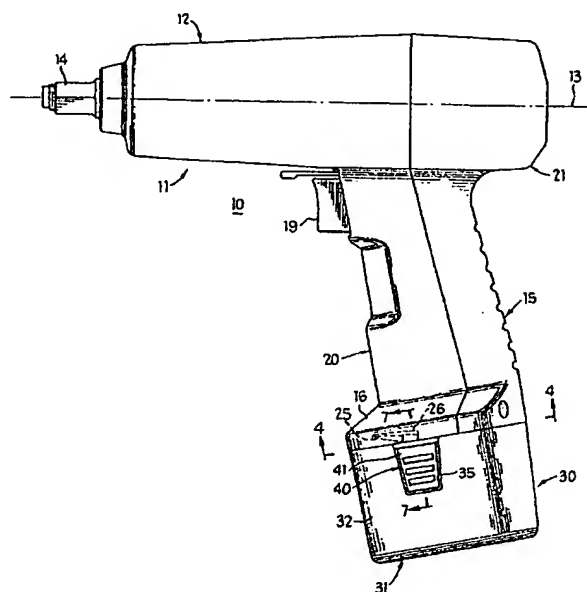
(73) Snap-On Tools Corporation, US

(51) Int. Cl.<sup>6</sup> B25F 5/02, H01M 2/10

(30) 1992/02/21 (838,901) US

(54) **AGENCEMENT DE VERROUILLAGE POUR BLOC-BATTERIE**

(54) **LATCHING ARRANGEMENT FOR BATTERY PACK**



(57) L'objet de l'invention est un dispositif électrique sans cordon, comprenant un corps principal se prolongeant le long d'un axe et une partie poignée se prolongeant à un angle obtus par rapport à l'axe, la poignée recevant un bloc batterie le long d'un deuxième axe. Le dispositif comprend un logement en deux parties, les pièces définissant respectivement l'avant et l'arrière du corps et de la poignée. Le logement avant comporte des épaulements à enclenchement disposés respectivement sur les cotés opposés, chacun définissant une première surface d'enclenchement disposée de manière sensiblement parallèle au premier axe, tandis

(57) A cordless electric device has a main body portion extending along an axis and a handle portion extending at an obtuse angle with respect to the axis, the handle receiving therein along a second axis a battery pack. The device has a two-part housing, with the parts respectively defining the front and rear of the body and handle portions. The front housing part has latching shoulders respectively disposed on the opposite sides thereof, with each defining a first latching surface disposed substantially parallel to the first axis, while the battery pack has two identical latching members respectively disposed on opposite sides thereof and each resiliently



(11) (21) (C) **2,089,944**  
(22) 1993/02/19  
(43) 1993/08/22  
(45) 1998/08/18

que le bloc batterie comporte deux éléments d'enclenchement identiques disposés respectivement sur les cotés opposés et chacun pouvant subir un mouvement élastique entre une position d'enclenchement et une position libérée, chaque élément d'enclenchement ayant deux surfaces secondaires d'enclenchement en forme de V, de sorte qu'une des dites deuxièmes surfaces d'enclenchement sur chacun des dits éléments d'enclenchement est disposée de manière sensiblement parallèle au premier axe pour la mise en communication avec la première surface d'enclenchement de l'épaule d'enclenchement correspondant, afin d'enclencher le bloc batterie en place sur le dispositif. Les éléments d'enclenchement sont interchangeables et le moulage de la partie logement avant de la pièce est facilité.

displaceable between latching and release positions, each latching member having two second latching surfaces thereon in a V-shaped configuration, so that one of said second latching surfaces on each of said latching members is disposed substantially parallel to the first axis for engagement with the first latching surface of the corresponding latching shoulder to latch the battery back in place on the device. The latching members are interchangeable and molding the forward housing part is facilitated.

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Abstract of the Disclosure

A cordless electric device has a main body portion extending along an axis and a handle portion extending at an obtuse angle with respect to the axis, the handle receiving therein along a second axis a battery pack. The device has a two-part housing, with the parts respectively defining the front and rear of the body and handle portions. The front housing part has latching shoulders respectively disposed on the opposite sides thereof, with each defining a first latching surface disposed substantially parallel to the first axis, while the battery pack has two identical latching members respectively disposed on opposite sides thereof and each resiliently displaceable between latching and release positions, each latching member having two second latching surfaces thereon in a V-shaped configuration, so that one of said second latching surfaces on each of said latching members is disposed substantially parallel to the first axis for engagement with the first latching surface of the corresponding latching shoulder to latch the battery back in place on the device. The latching members are interchangeable and molding the forward housing part is facilitated.

We Claim:

1. A latching arrangement for latching a battery pack in an operating position on an electric device having a body portion extending along an axis and a handle portion  
5 inclined with respect to the axis, said latching arrangement comprising: plural latching shoulders on the handle portion each having a first latching surface disposed substantially parallel to the axis, and plural latching members on the battery pack each displaceable between latching and release  
10 positions and resiliently biased to the latching position, each latching member having a second latching surface thereon engageable with said first latching surface of a corresponding one of said latching shoulders when said latching member is in its latching position and the battery  
15 pack is in its operating position securely to latch the battery pack to the device.

2. The latching arrangement of claim 1, wherein the handle portion has two of said latching shoulders thereon and the battery pack has two of said latching members  
20 thereon respectively engageable with said latching shoulders.

3. The latching arrangement of claim 2, wherein said latching shoulders are respectively disposed on opposite sides of the handle portion and said latching members are  
25 respectively disposed on opposite sides of the battery pack.

4. The latching arrangement of claim 4, wherein the device includes a housing having two interconnected parts.

5. The latching arrangement of claim 4, wherein said two housing parts respectively form forward and rearward  
30 portions of the device.

6. The latching arrangement of claim 5, wherein said latching shoulders are disposed on the forward one of said housing parts.

7. The latching arrangement of claim 1, wherein said  
35 latching members are manually displaceable to their release positions.

8. The latching arrangement of claim 1, wherein the handle portion is disposed at an obtuse angle with respect to the axis.

5 9. A latching arrangement for latching a battery pack to an electric device wherein the battery pack is insertable into the device along an axis to an operating position, said latching arrangement comprising: two latching shoulders respectively disposed on opposite sides of the device, each of said shoulders having a first latching surface inclined  
10 with respect to the axis at a predetermined angle, and a latching member disposed on one side of the battery pack and adapted for cooperation with the latching shoulder on the corresponding side of the device, said latching member being displaceable between latching and release positions and  
15 resiliently biased to the latching position, said latching member having two second latching surfaces thereon respectively inclined with respect to the axis on opposite sides thereof at said predetermined angle, whereby when the battery pack is in its operating position one of said second  
20 latching surfaces is engageable with said first latching surface of the one of said shoulders on the corresponding side of the device irrespective of the side of the battery pack on which said latching member is disposed.

25 10. The latching arrangement of claim 9, wherein said two second latching surfaces are disposed in a substantially V-shaped configuration.

11. The latching arrangement of claim 9, wherein the battery pack includes two of said latching members respectively engageable with said latching shoulders.

30 12. The latching arrangement of claim 11, wherein said two latching members are substantially identical in construction.

13. The latching arrangement of claim 9, wherein said latching member extends from the battery pack substantially  
35 parallel to the axis when the battery pack is disposed in its operating position.

14. A latching arrangement for latching a battery pack on an electric device having a body portion extending along a first axis and a handle portion inclined with respect to the first axis, wherein the battery pack is insertable into the handle portion of the device along a second axis to an operating position, said latching arrangement comprising: two latching shoulders respectively disposed on opposite sides of the device, each of said shoulders having a first latching surface disposed substantially parallel to the first axis, and a latching member disposed on one side of the battery pack and adapted for cooperation with the latching shoulder on the corresponding side of the device, said latching member being displaceable between latching and release positions and resiliently biased to the latching position, said latching member having two second latching surfaces thereon respectively inclined with respect to the second axis on opposite sides thereof at a predetermined angle, said predetermined angle being such that when the battery pack is in its operating position one of said second latching surfaces is substantially parallel to and engageable with said first latching surface on the one of said shoulders on the corresponding side of the device irrespective of the side of the battery pack on which said latching member is disposed.

15. The latching arrangement of claim 14, wherein the device includes a housing having two interconnected parts.

16. The latching arrangement of claim 15, wherein said two housing parts respectively form forward and rearward portions of the device.

17. The latching arrangement of claim 16, wherein said latching shoulder is disposed on the forward one of said housing parts.

18. The latching arrangement of claim 14, wherein the battery pack includes two of said latching members respectively engageable with said latching shoulders.

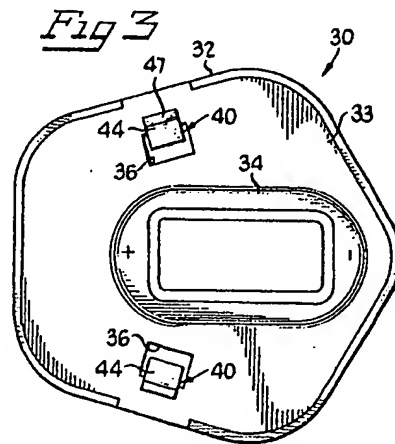
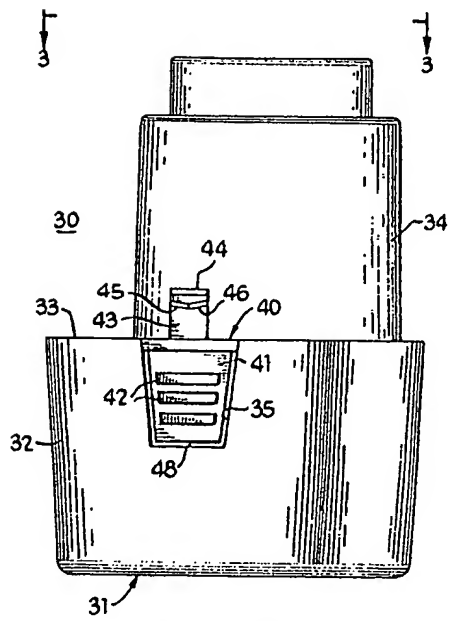
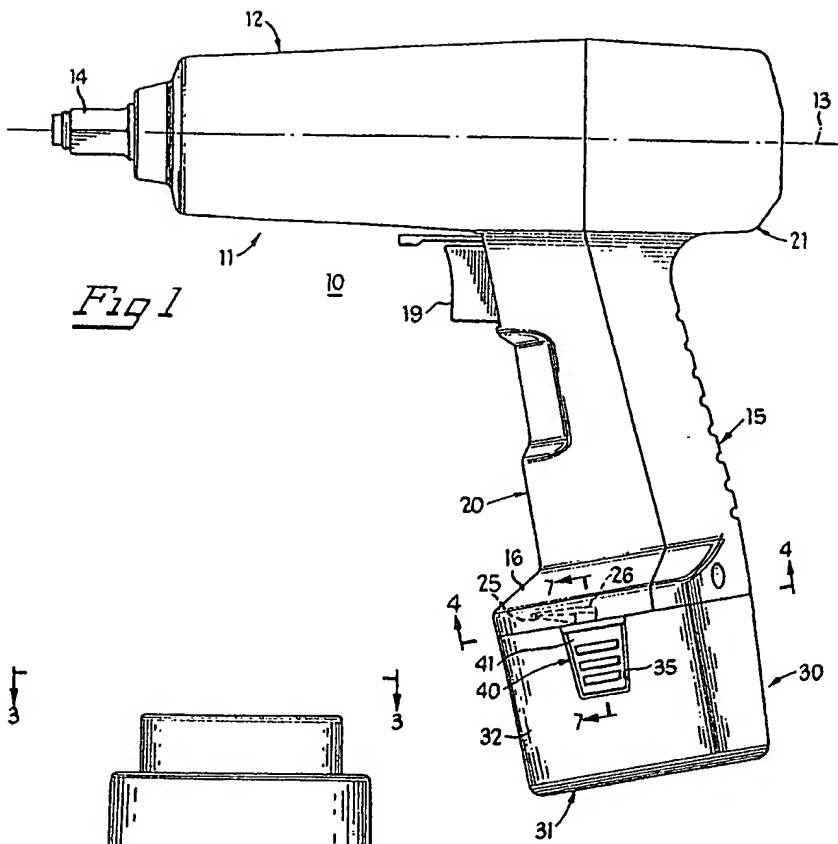
19. The latching arrangement of claim 14, wherein said two second latching surfaces are disposed in a substantially V-shaped configuration.

20. The latching arrangement of claim 14, wherein the  
5 second axis is disposed at an obtuse angle with respect to the first axis.

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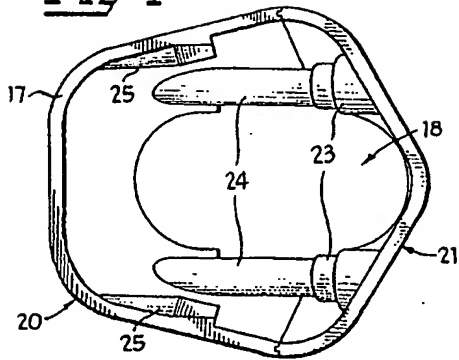
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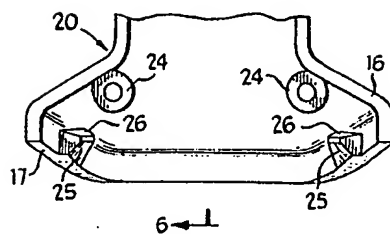
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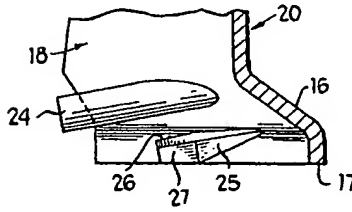
*Fig 4*



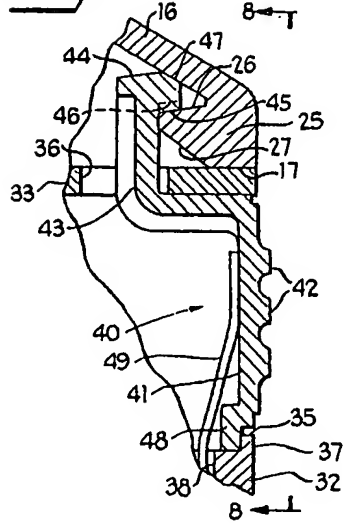
*Fig 5*



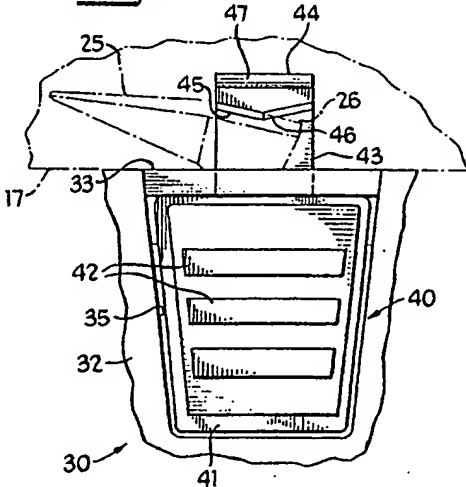
*Fig 6*



*Fig 7*



*Fig 8*



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